

MPA-NT



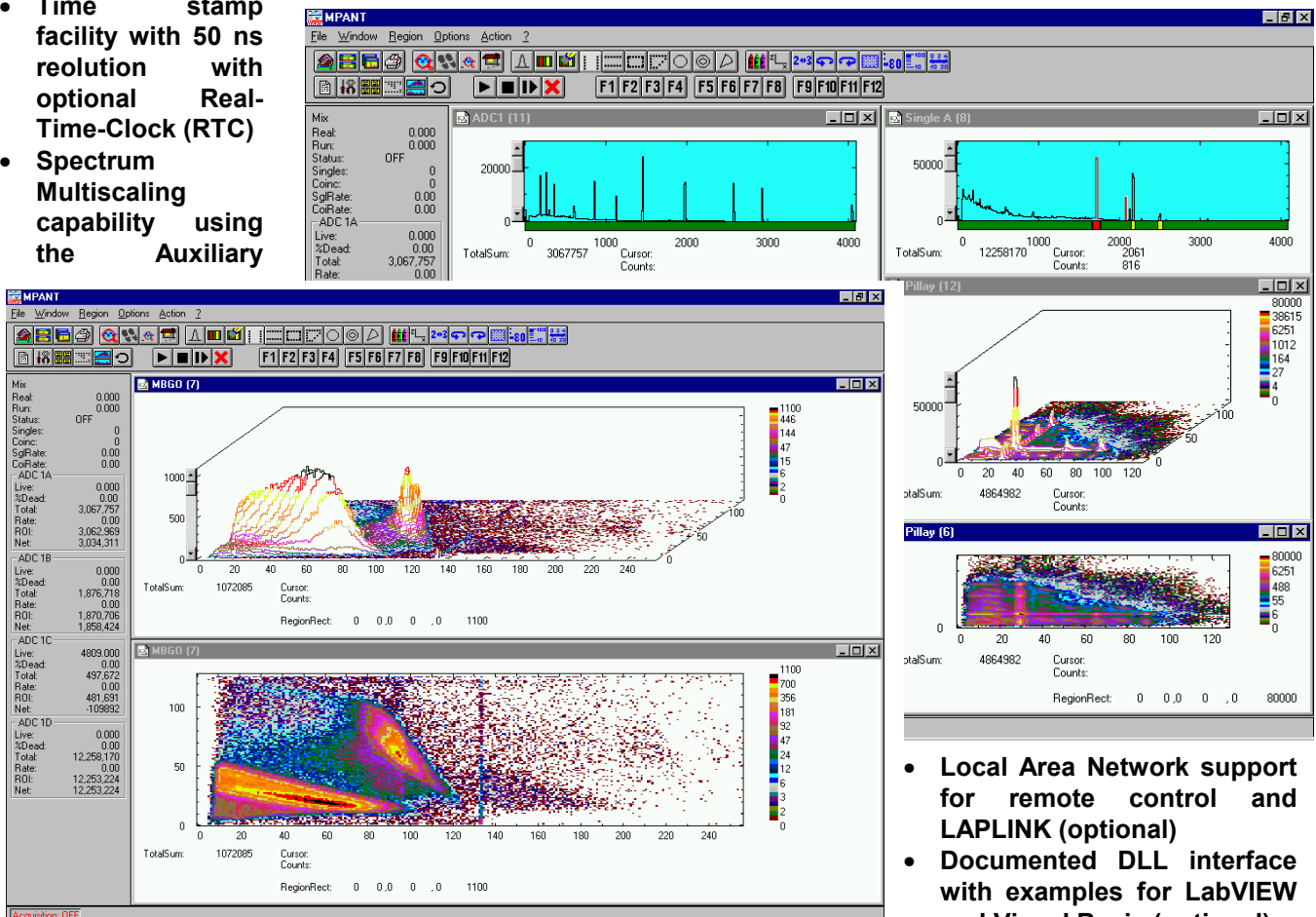
Multiparameter MPA-3 System Software

Features:

- MS-WINDOWS-98/NT/2000/XP/Vista (32 bit) based operating software for the new MPA-3 Multiparameter System
- WINDOWS graphical environment for control and spectrum manipulation via mouse and function keys
- Supports up to 16 input ports (ADCs, TOFs etc)
- Livetime correction for each input
- 1 ms time marks in list data stream
- Time can be a parameter in a multiparameter spectrum
- Time stamp facility with 50 ns resolution with optional Real-Time-Clock (RTC)
- Spectrum Multiscaling capability using the Auxiliary

Gauss-Fit, Calibrate, Lin/Log display, and other functions

- Automatic operation through MACRO commands
- Hardcopy output to any Printer or Plotter supported by MS-WINDOWS
- Peak centroid, Gauss Fit, net area and gross area calculation
- Energy calibration
- External Control by host computer via RS232C, TCP/IP (optional) and Experiment Control Line input



- Multiple simultaneous windows display for single parameter- and dual parameter spectra (MAP and isometric) - as many as you can fit on your screen
- Display selection bar with Zoom, ROI Shape,

- Example Spectrum
- Choice of disk storage formats. File formats compatible to various spectrum analysis programs
- Optional Replay software

MPA-NT Jan. 2000



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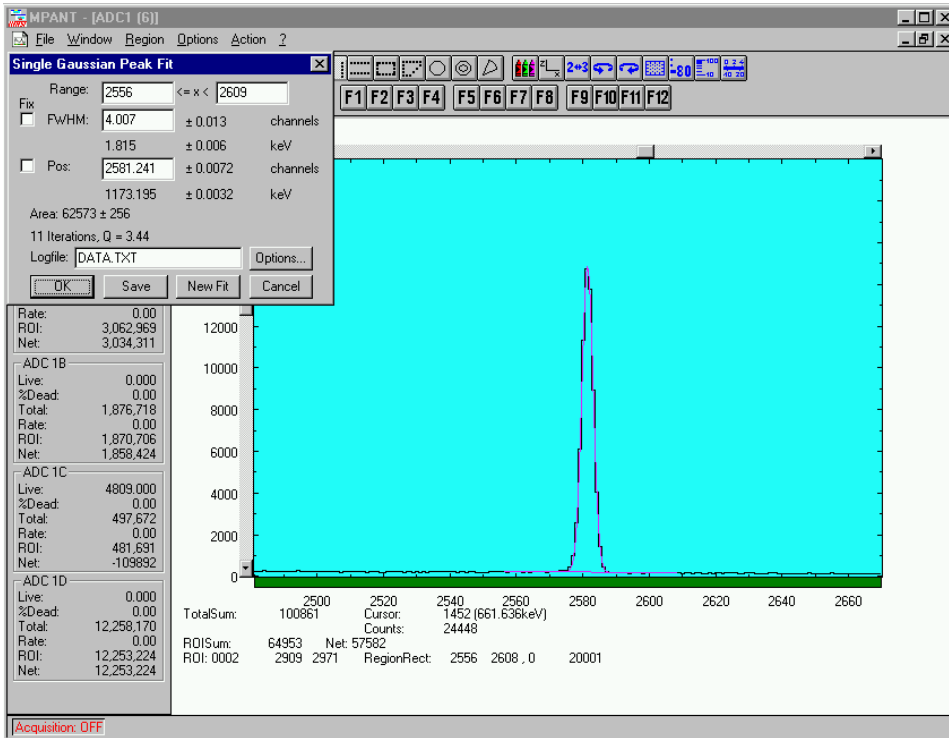
Description:

MPA-NT is a powerful - yet easy-to-use Multiparameter Emulation software that operates under the MS-WINDOWS 98/NT/2000/XP/Vista (32 bit) environment. It offers full software control of the MPA-3 Multiparameter system. Spectra from up to 16 input devices can be displayed in single parameter- and dualparameter format. The resolution of the dualparameter arrays are limited only by the available RAM in the used computer as well as

MPA-NT is compatible to many spectrum analysis programs such as:

GANAAAS, QXAS, OSQ, SAMPO, ALPS, MEDIGAM, GAMMAW and many others. An optional DLL provides easy control and data transfer to LabVIEW, Visual Basic etc.

MPA-NT can be fully remote controlled by a host computer via RS232C communication and in a Local Area Network (TCP/IP protocol, optional) using MPA-NT commands, or by an Experimental Control Line.



MPA-NT has all capabilities to inspect and evaluate the data: Opening new windows, zooming and scrolling, creating and deleting ROI's, Net and gross integration, calibration, Gaussian peak fit etc.

Region of Interest (ROI)

ROIs are defined using the right mouse button and dragging a rectangle over the region. In dualparameter displays in addition polygonal, circular, annular and pie shaped ROIs are possible. The actual ROI can be selected in a single spectra by clicking on the ROI bar, or it can be advanced in any spectra using the + and - keys from the numeric keypad. The ROI boundaries, total and net sum is displayed below the display. The background is calculated as a linear function

from the right- and leftmost channel. The ROIs can be edited in a dialog box and are saved together with the data.

the resolution of the monitor. A practical limitation is probably 4k x 4k which requires approx. 67 MB of RAM space for each such spectrum.

There are two modes of operation:

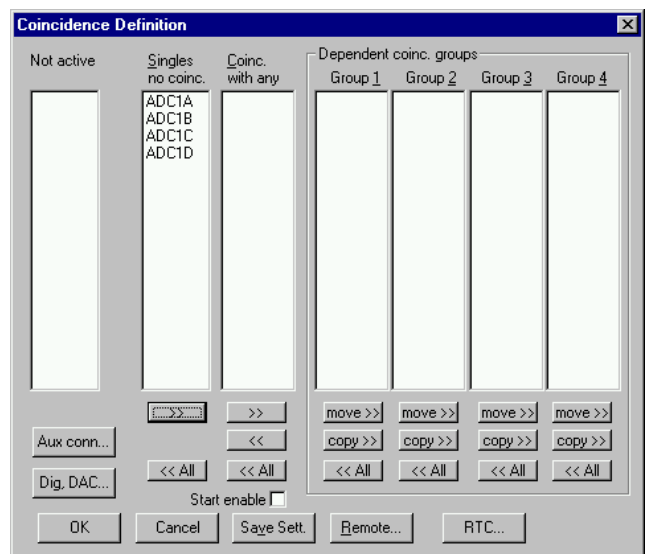
LIST-Mode with- or without on-line monitoring

The list mod performance exceeds all presently available multiparameter list systems as list-data can be stores continuously at datarates of up to 4,000,000 events/s.

The list-monitor can be emulated by simultaneously histogramming the incoming data.

Histogramming Mode

Spectra can be histogrammed in single- or dualparameter modes. Any combination of ADCs or other input devices can be selected. It is possible to display a dualparameter spectrum of two ADCs and simultaneously each single parameter spectrum as well.



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Calibration

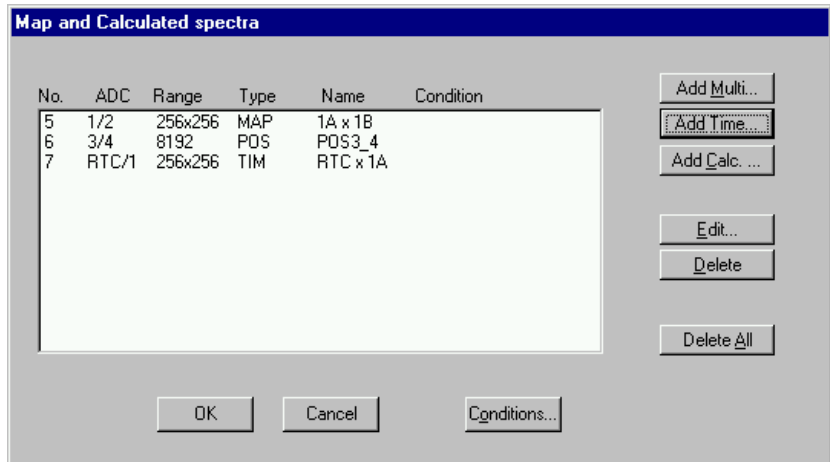
You have a choice of several calibration formulas. Enter some cursor positions and the corresponding values, click Add, then Calibrate. The obtained coefficients can be inspected together with the statistical error, or they can be changed and entered by hand. If 'use calibration' is on, the calibrated values are displayed together with the channel position of the cursor.

Gaussian Peak Fit

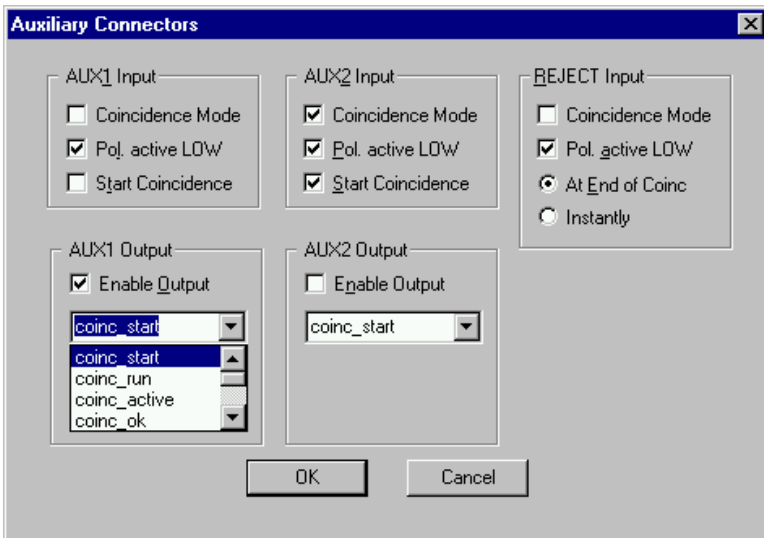
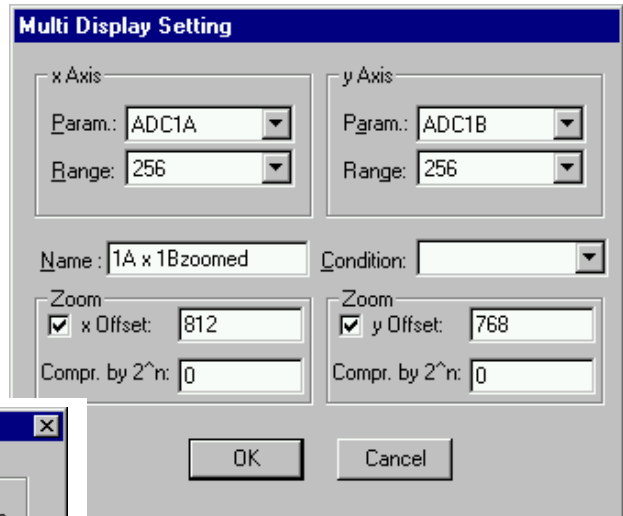
A single Gaussian peak fit with linear background can be performed for the active region. The fitted curve and background is displayed and a dialog box shows the results: The position and FWHM are displayed in channels or in calibrated units, if a calibration has been made. The area of the Gaussian is also shown. The normalized χ^2 and for all values also the standard deviations are given. The results can be dumped to a logfile with a specified name. The information in the logfile can be defined. The file can be read with standard spreadsheet programs like EXCEL. With Fit ROIs, a Single Gaussian Peak Fit is performed for all ROIs and the results are dumped to the logfile. 'Auto Calib' performs a Gaussian fit for all ROIs where calibration energies were entered and makes a new energy calibration from the results.

Batch Operation

MPA-NT has extensive MACRO capabilities. By using these MACROS the user can fully automate his measurements. The command language is interpreted by the server program.



Software upgrades are free for the first 12 months after the purchase of a MPA-NT system. To download the latest version please contact us by e-mail for your user code and password.



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MPA-3 Replay and Replay_Ex Replay Software for Reconstruction of Listdata



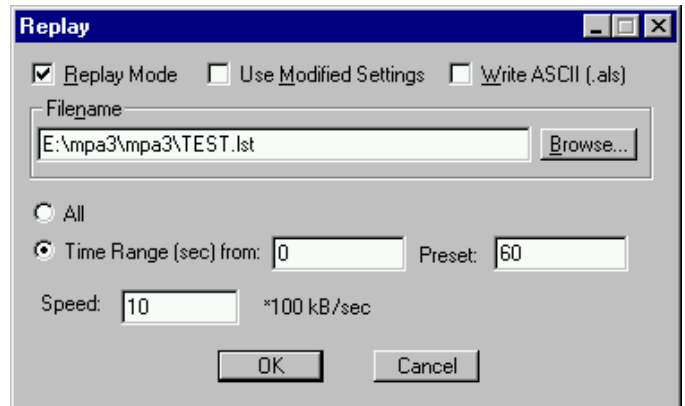
Features:

- Extended MPA-NT software for off-line analysis of data files recorded in LIST-Mode on the same computer - Model MPA-3RPlay
- Extended MPA-NT software for off-line analysis of data files recorded in LIST-Mode operating on an alternate computer - Model MPA-3RPlay_Ex (no MPA-3 hardware installed)
- Enables to define new dual parameter spectra, zooms, mathematical calculations, and set new conditions on events within region of interests.

Description:

MPA-3 Replay is an optional software module to evaluate and analyze list files off-line, recorded with the MPA-NT software. It is included in the software delivered with a MPA-3 system but must be enabled either by a key module or a chip in the MPA-3 base module. There are two versions: the MPA-3 Replay that operates on the same computer as the MPA-3 system and MPA-3 Remote Replay for operation on an alternate (remote) computer.

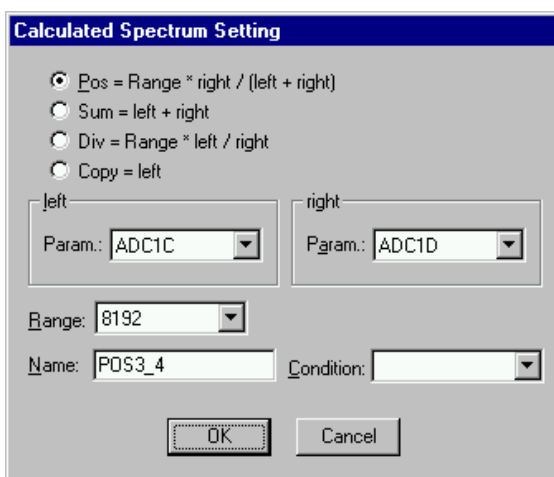
The replay program is easy to use: enable Replay Mode using the checkbox in the Replay Settings dialog and specify a **Filename** of a list file (extension .LST) or search one by pressing **Browse...** With the radio buttons it is possible either to choose the complete list file by selecting **All** or a selected **Time Range**. To



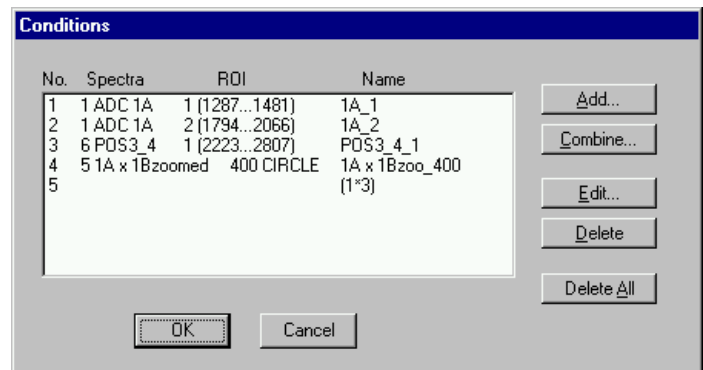
Replay Settings dialog

Use Modified Settings enable the corresponding checkbox, otherwise the original settings will be used. To start Replay press Start in the Action menu.

In Replay mode it is possible to define any new dual parameter spectra, also zoomed, and calculated spectra: Press Add Calc from the Map and Calculated Spectra dialog to define a new calculated single spectrum in the Calculated Spectrum Setting dialog. Any such calculated spectra can be used as a parameter for a dual parameter spectra. **Conditions** on events within any ROIs can be defined and selected as a necessary condition for incrementing a channel in another spectra.



Calculated Spectrum Setting



Conditions

Ordering Information Order No.

MPA-3 RPlay **MP3S02**
MPA-3 RPlay_Ex **MP3S04**

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